ADT Revolutionizes Broadband

The Champaign, IL, USA, based Advanced Diamond Technologies, Inc. (ADT), and its collaborators have received a $1.4m Phase II program award from DARPA to advance next-generation broadband comms devices based on ADT's Ultrananocrystalline Diamond (UNCD). The unique properties of UNCD enable MEMS to directly integrate with silicon microchips, resulting in faster, more reliable wireless communications systems, it said.

"DARPA's funding is key to developing next-generation MEMS technology based on our UNCD material," said ADT president Neil Kane. "We are honored to have a second round of funding from the organization that provided the initial support for such forward-thinking initiatives as the Internet and stealth technologies."

"During Phase I of this project, we discovered that UNCD exhibits the highest known acoustic velocity of any material, which directly translates to higher resonator frequencies and thus device performance," said ADT's CTO, John Carlisle. Key to the next-generation MEMS devices, and a critical success factor for defence initiatives, is the ability of UNCD to integrate directly with microchips and resonate at high frequencies. UNCD can achieve this while remaining unaffected by environmental exposure, a requirement for more robust and reliable broadband technologies.

ADT is partnered with Argonne National Laboratory will provide fundamental and applied research on the UNCD technology developed there over the past 14 years. Innovative Micro Technology, an industry leader in MEMS fabrication, will produce the UNCD MEMS devices. The Prof. R. W. Carpick group at the University of Wisconsin-Madison will apply advanced atomic force microscopy techniques to characterize the performance of UNCD-based MEMS devices

Web: www.thindiamond.com

BASF Electronic Material Center Europe

BASF is to build a new integrated production plant for process chemicals for the semiconductor industry. It is investing a double-digit million euro sum in the Electronic Material Center Europe in Ludwigshafen, which will serve European customers.

The centre is scheduled to open at the end of 2007 and will create 60 jobs. At the same time, the tolling arrangement in Darmstadt will cease.

"With its structure and the way it is integrated into BASF's Verbund, the Electronic Material Centre Europe is unique in Europe and shows how committed we are to this market," said Dr. Karl-Rudolf Kurtz, Group VP of BASF's Electronic Materials global business unit. "With this investment, we are also combining BASF's expertise in electronic chemicals as 'The Chemical Company' and helping to make our customers in Europe more successful."

Ludwigshafen is BASF's largest production site. The 10 sq km site is also the company's headquarters and home to its central research platform. Between 2005 and 2009, BASF is investing about 6 bn in Ludwigshafen for capital expenditures, modernization and maintenance of its plants as well as an additional 800 m per year in the research and development of modern processes and innovative products.

Web: www.basf.com

World Market for Chemicals and Materials to Grow by 20%

Strong demand for semiconductors is keeping the chemical and material market in high gear, according to a market study by The Information Network. The worldwide market for chemicals and materials for semiconductor manufacturing grew 6.1% in 2005 and is projected to grow another 20.0% in 2006.

"We continue to see strong demand across all businesses, especially in North America and Asia-Pacific," said Dr. Robert N. Castellano, President of The Information Network. "The market is being driven by strength in demand for CMP pads and slurries, along with increased sales of deep ultraviolet photoresists and related products in all regions."

The clear winner in the market is the silicon wafer sector, growing 21.9% in revenues in 2006. Higher pricing, increased volume demand across all diameters, and 300mm capacity ramp-up are responsible. For 2006, SEH will lead wafer the market with a 33% share.

Contact or visit The Information Network for more information on its report, "Chemicals And Materials For Sub-100nm IC Manufacturing".

Web: www.theinformation-net.com